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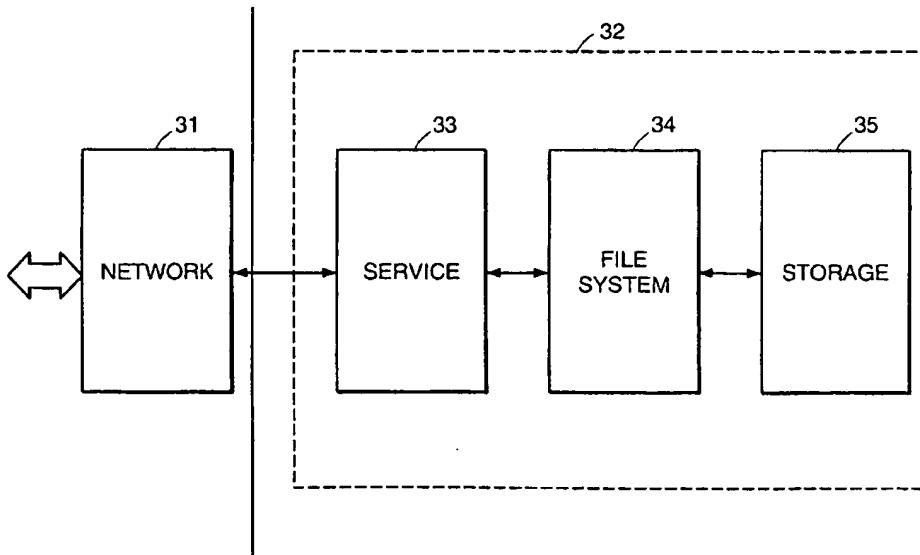
(88) Date of publication of the international search report: 20 December 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR HARDWARE IMPLEMENTATION OR ACCELERATION OF OPERATING SYSTEM FUNCTIONS



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(57) Abstract: An apparatus in one embodiment handles service requests over a network, wherein the network utilizes a protocol. In this aspect, the apparatus includes: a) a network subsystem for receiving and transmitting network service requests using the network protocol; and b) a service subsystem, coupled to the network subsystem, for satisfying the network service requests. Also in this aspect, at least one of the network subsystem and the service subsystem is hardware-implemented; the other of the network subsystem and the service subsystem may optionally be hardware-accelerated. A variety of related embodiments are also provided, including file servers and web servers.

# INTERNATIONAL SEARCH REPORT

Int'l. Application No

PCT/EP 00/10277

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 H04L29/06 G06F17/30 G06F13/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, IBM-TDB, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 355 453 A (BLIGHTMAN STEPHEN E ET AL) 11 October 1994 (1994-10-11)	1-8, 11-13, 15-19, 22,23, 40-43, 52-54, 56,69, 71-75,77
A	abstract column 4, paragraph 3 column 8, paragraph 4 - paragraph 5 column 10, paragraph 1 -column 11, paragraph 4  column 8, paragraph 4 - paragraph 5 -/-	9,10,14, 20,21, 24-39, 44-51, 55, 57-68, 70,76

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

Int'l Application No

PCT/EP 00/10277

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 725 351 A (IBM) 7 August 1996 (1996-08-07)  abstract page 3, line 41 - line 51 page 4, line 48 - line 54 figure 1 ---	1-8, 22, 23, 40-42, 69, 71, 72, 74, 77
A	US 5 875 297 A (YUGAWA TAIHEI ET AL) 23 February 1999 (1999-02-23) abstract column 2, paragraph 4 column 3, paragraph 2 -column 4, paragraph 1 ---	1-77
A	EP 0 853 413 A (SUN MICROSYSTEMS INC) 15 July 1998 (1998-07-15)  abstract column 2, line 23 - line 46 column 4, line 21 - line 34 column 5, line 14 - line 18 claim 1 ---	9, 10, 14, 26, 27, 38, 39, 50, 51, 57, 58
X	US 5 754 771 A (VAN COUVERING DAVID W ET AL) 19 May 1998 (1998-05-19) abstract column 3, line 50 -column 4, line 9 column 7, line 46 -column 8, line 10 figure 6 ---	64
A		65-68
2		

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 00/10277

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-63,69-77

Apparatus and System determining appropriateness of service requests

2. Claims: 64-68

Process using a number of threads independent of the number of clients

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/10277

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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